

**The claims defining the invention are as follows:**

1. A method of halftoning an image, said method comprising steps of:

determining an output value of a current pixel on a current scanline using a sum  
5 of an input value for the current pixel and a neighbourhood error value at the current pixel;

determining an error at the current pixel as the difference between (i) the sum of  
the input value for the current pixel and the neighbourhood error value at the current  
pixel, and (ii) the output value of the current pixel; and

10 adding a proportion of the error at the current pixel to neighbourhood error  
values at as yet unprocessed pixels of a subsequent scanline in accordance with a next  
scanline error impulse response; wherein said next scanline error impulse response:

approximates a function which spreads with self-convolution in proportion to a  
degree of self-convolution.

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2. A method of halftoning according to claim 1, wherein:

the next scanline error impulse response is a member of a plurality of next  
scanline error impulse responses, each of said plurality of next scanline error impulse  
responses approximating a function which spreads with self-convolution in proportion to  
20 the degree of self-convolution;

each said member of said plurality of next scanline error impulse responses is  
associated with a corresponding error diffusion mask; and

a corresponding size of each said error diffusion mask depends upon a grey value  
of a region to which said mask is applied.

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